

shot on 2nd November, evidently migrating, on a small rocky islet off the coast, where its solitary companion was a *Tarsiger cyanurus*.

A specimen killed at Shanghai on 28th February is in almost full plumage, the black throat being only slightly barred with white, and a few brown spots appearing in the crown.

9. *PASTOR ROSEUS* (L.).

A single immature specimen now in the Shanghai Museum was shot in the spring of 1888 at Shanghai. It was probably one of a flock, as the native who killed it would not be likely to fire at a single bird of this description.

I am not aware whether there is more than one species of Rose-coloured Starling known, and have no skins or books of reference to guide me, so may be wrong in attaching the name of the European species to this bird.

10. *HALCYON COROMANDA* (Lath.).

This southern species, which occurs in Formosa, the Liuchiu Islands, and Japan, occasionally appears in China. A specimen in the Shanghai Museum was taken on an island at the mouth of the Yangtse; one was sent to the British Museum among a collection of birds made in Manchuria by Mr. H. E. M. James; and a native who knows birds well tells me he has met with it in the province of Kiangsi.

11. *DENDROCYGNA JAVANICA* (Horsf.).

A specimen in the Shanghai Museum was taken near Soochow last autumn. It is probably a very rare visitor to China, though the *Nettapus coromandelianus* comes in large numbers to breed in the Yangtse valley every year.

XLII.—On the Genus *Turnix*. By W. R. OGILVIE-GRANT. (Plate XIV.)

THE twenty-two known species of the genus *Turnix* are primarily divisible into a few groups which can be easily distinguished from one another; but to clearly define each of the several species included in these groups is by no

means so easy a matter. This will soon become apparent to anyone making a study of the genus, for most of the species pass through intricate changes of plumage, and every character seems to be subject to variation. Whether we look to general colour, markings, size, or other characters, it is almost impossible to form an opinion as to the value of a species without having first studied the group or had a considerable series of specimens to judge from. Nevertheless it will be found that, after allowing a certain margin for variation, these individual differences in plumage are not so irregular as would at first appear, all of them being stages through which each bird passes before reaching maturity. In making our comparisons several things have to be borne in mind.

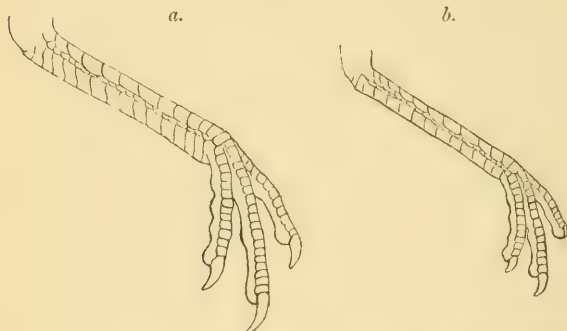
Firstly, that the *females* are the birds in which we must look for specific distinctions, for in this abnormal group the position of the sexes is so far reversed, that the *females* are larger and more handsomely coloured than the males, which in some of the species, at least, and probably in all, are compelled to sit on and hatch the eggs, while the females are amusing themselves by wandering about and engaging in fierce conflicts with one another.

Secondly, that the males, as a general rule, resemble the *young* females and, in several species, are so like one another that they are difficult or impossible to distinguish, while their respective adult females differ widely from one another and may even belong to different sections of the group. As an instance of this we may compare the species of the Philippine Islands, *T. fasciata*, with *T. rufilatus*, which inhabits Celebes. The males of these are much alike, though in the Philippine bird (except in very old examples) there is usually an indication of a rufous nuchal collar, and the ground-colour of the breast is buff instead of white. But the adult females differ widely, those of the Philippine species having the chin and throat and middle of the breast deep black and a broad rufous nuchal collar; while in the Celebean species we find the chin and throat barred with black and white like the breast, and the upper surface uniform. Thus it is clear that it is

as dangerous to base a new species on a male specimen only of any *Turnix*, as it would be to describe a female specimen of *Phasianus* or *Excalfactoria* as new without having first seen the male.

Thirdly, that there is a general tendency to uniformity of coloration in the plumage of the upper surface of very old birds, the bars, spots, and markings of the younger stages gradually disappearing with age.

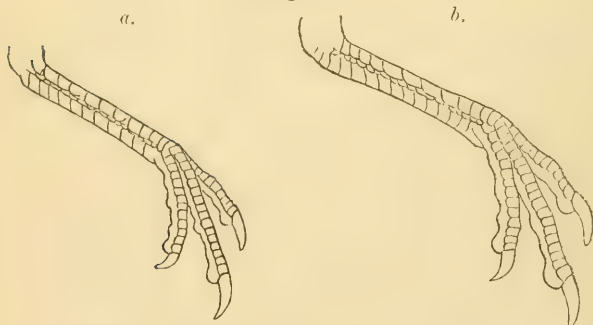
Fig. 1.



a. Foot of *Turnix ocellata*.

b. Foot of *Turnix tanki*.

Fig. 2.



a. Foot of *Turnix nigricollis*.

b. Foot of *Turnix melanogaster*.

Fourthly, that the males, in some cases at least, retain the characters of the young longer than the females.

Fifthly, that the black throats, the rufous nuchal collars, and such-like marks which distinguish the adult females in

the different groups are not seasonal or nuptial plumages, as supposed by some authors, but denote maturity, and are to be found at all seasons in fully adult females.

Note.—1. The species *T. nigrifrons*, auct., of which the type is in the Paris Museum, is founded on a made-up specimen with the head of a Painted Sand Grouse (*Pterocles fasciatus*) and the body of the Indo-Malayan Button Quail (*Turnix blanfordi*). I came to this conclusion from an examination of Vieillot's figure, and Mr. Bowdler Sharpe, who has kindly examined the type in the Paris Museum, finds my surmise to be correct.

2. *Turnix beccarii*, described by Count Salvadori (Ann. Mus. Genov. vii. p. 675) from Celebes, appears to be absolutely identical with *T. rufescens*, Wallace.

3. *Turnix variegatus*, Vieillot, is probably a Tinamou (*Nothura media*), but I have been unable to have this identification verified.

Key to the Species of *Turnix*.

- I. Tarsus longer than middle toe and claw
(see fig. 1, p. 448); bill slender or only moderately strong.
- A. Entire breast transversely barred with black; belly immaculate. Sexes different.
 - a¹. Chin and throat (and in very old birds the middle of the chest) black.
 - a². Norufous nuchal collar differentiated from the back *T. taigoor*, ♀ ad.
 - b². A fairly defined rufous nuchal collar. *T. pugnax*, ♀ ad.
 - c². A well-defined rufous nuchal collar. *T. fasciata*, ♀ ad.
 - b¹. Chin and throat barred with black like breast.
 - d². Sides of abdomen, thighs, and under tail-coverts rufous *T. rufilatus*, ♀ ad.
 - e². Under surface without rufous..... *T. powelli*, ♀ ad.
 - c¹. Chin and throat white, sides only with narrow black edgings to the feathers.
 - f². Chest barred with black and white.
 - a³. Sides of abdomen, thighs, and under tail-coverts rufous *T. rufilatus*, ♂ ad.
 - b³. Under surface without rufous.... *T. powelli*, ♂ ad.

*g*². Chest barred with black and buff.

*c*³. No rufous nuchal collar differentiated from back.

*a*⁴. Abdomen and thighs rufous, } *T. taigoor*, ♂ ad. & ♀ imm.
back rufous or brown. } *T. pugnax*, ♂ ad. & ♀ imm.

*b*⁴. Abdomen whitish, thighs rufous,
back blackish grey. *T. fasciata*, ♂ ad.

*d*³. A rufous nuchal collar *T. fasciata*, ♂ & ♀ imm.

B. Centre of breast not transversely barred with black; throat never black. Sexes similar in one group, but slightly different in the other section.

*d*¹. Middle feathers of the tail elongated and pointed and edged with white or buff; feathers of the upper surface edged with white or buff, giving the back a scaly appearance. Sexes similar.

*h*². Centre of breast and belly immaculate; sides of breast spotted with black or barred with black and white.

*e*³. Scapulars margined with white or whitish grey. Feathers on sides of breast pale buff, contrasting strongly with the rust-red centre of the breast, each with a heart-shaped subterminal black spot.

*c*⁴. Larger; wing ca. 3·7 in ♀ *T. sylvatica*, ♂ & ♀ ad.

*d*⁴. Smaller; wing ca. 3·3 in ♀ . . *T. lepurana*, ♂ & ♀ ad.

*f*³. Scapulars margined with golden buff or straw-colour.

*e*⁴. Feathers on the sides of the breast buff, contrasting but slightly with the brighter buff centre of the breast; each with a subterminal black, or black and rufous spot. Wing ca.

2·9 in ♀ *T. dussumieri*, ♂ & ♀ ad.

*f*⁴. Feathers on the sides of the breast with the ends barred transversely with black and white *T. nana*, ♂ & ♀ ad.

*i*². Centre of breast and belly with round subterminal black spots on most

of the feathers; sides of breast with terminal black and white transverse bars (as in *T. nana*)....

T. hottentotta, ♂ & ♀ ad.

*e*¹. Middle tail-feathers not elongated and pointed, nor edged with white or buff; feathers of upper surface without any scaly appearance. Sexes different.

*k*². A well-defined rufous nuchal collar.

*g*³. Scapulars not edged with golden buff.

*g*⁴. Back uniform greyish brown, with fine faint wavy transverse bars of darker brown. Wing ca. 3.5

T. tanki, ♀ ad.

*k*⁴. Back brownish grey, irregularly blotched and vermiculated with black and sometimes with traces of rufous; nuchal collar bright rufous, narrower. Wing ca. 3.9

T. blanfordi, ♀ ad.

*i*¹. Back dark brownish grey, irregularly blotched and vermiculated with black and rufous; nuchal collar dark rufous, wider.

Wing ca. 3.2 *T. albiventris*, ♀ ad.

*k*³. Scapulars edged with golden buff*.

*k*⁴. Throat and breast pale rufous, belly buffy white. Bill slender.

T. maculosa, ♀ ad.

*l*². No rufous collar, and no rufous in feathers of upper surface or with only traces of this colour.

*i*³. Scapulars not edged with golden buff.

*l*⁴. Back uniform greyish brown, with fine wavy transverse bars of darker

T. tanki, ♂ ad.

*m*⁴. Back brownish grey, irregularly blotched and vermiculated with black

T. blanfordi, ♂ ad.

*n*⁴. Back dark brownish grey, irregularly blotched and vermiculated with black and rufous ..

T. albiventris, ♂ ad.

* The ♀ of *T. rufescens*, Wallace, which is at present unknown, must evidently be closely allied to *T. maculosa*, judging from the type (? ♂ ad.).

- k*³. Scapulars edged with golden buff.
*o*⁴. Chest rufous; upper surface greyish black.
*a*⁵. Throat buff *T. saturata*, ♀ ad.
*b*⁵. Throat white *T. saturata*, ♂ ad.
*p*⁴. Chest buff; upper surface greyish brown *T. maculosa*, ♂ ad.
*q*⁴. Chest rufous; upper surface greyish brown *T. rufescens*, ? ♂ ad.
*m*². No defined rufous nuchal collar, but most of the feathers of the upper surface (especially those of the nuchal region) with a patch at the extremity rufous or rufous intermixed with black.
*l*³. Scapulars not edged with golden buff } *T. tanki*, *blanfordi*, and *albi-ventris*, ♂ & ♀ imm.
*m*³. Scapulars edged with golden buff } *T. saturata* and *T. maculosa*, ♂ & ♀ imm.
C. Neck and breast uniform bright rufous; upper tail-coverts very long, entirely covering the true tail.
*f*¹. Chin, throat, and cheeks black and white (almost black in very old birds). *T. ocellata*, ♀ ad.
*g*¹. Chin and throat white spotted with black *T. ocellata*, ♂ ad.
II. Tarsus equal to or shorter than the middle toe and claw (see fig. 2, p. 448), bill slender or very stout.
D. Breast and belly uniform dove-grey, shoulders and sides of chest very bright rufous; chin and throat deep black edged with white. Bill slender *T. nigricollis*, ♂ & ♀ ad.
E. Chest black, many of the feathers having terminal bars of white; upper surface umber, with here and there irregular marks of black, rufous, and white. Bill fairly strong *T. melanogaster*, ♀ ad.
F. Chest whitish, with a wide V-shaped subterminal black mark across each feather; upper surface as in ♀ ad. Bill not so strong *T. melanogaster*, ♂ ad.
G. Chest buff, irregularly spotted and marked with grey; no rufous nuchal collar, but otherwise the upper surface similar to that of ♀ ad. Bill slender *T. varia*, ♂ ad.
H. Chest grey; each feather with a pale

buff or whitish shaft-streak, becoming more or less spatulate towards the margin. Feathers surrounding the eye black spotted with white.

A¹. Bill moderately stout; a fairly defined bright rufous nuchal collar; back black, each feather irregularly and narrowly barred with rufous..... *T. varia*, ♀ ad.

Δ¹. Bill very stout; upper surface uniform dull light red, one or two of the feathers of the middle of the back mixed with black *T. castanonota*, ♂ & ♀ ad.

I. Chest rufous. Feathers round the eye black spotted with white. Upper surface stone-grey, most of the feathers of the back with narrow transverse bars of rufous and black *T. pyrrhothorax*, ♂ & ♀ ad.

K. Chest dull light red, darker at the sides than in the middle. Feathers surrounding the eye dull light red, like the rest of the upper surface. Bill very stout.. *T. velox*, ♂ & ♀ ad.

In the first section of the genus *Turnix*, which contains the greater number of the species, all are distinguished by having the tarsus longer than the middle toe and claw (see fig. 1, p. 448).

GROUP I.—I shall begin by dealing with the members of the group which have the breast-feathers *barred*, and in which the *adult female* has the *throat and middle of the breast black*.

Messrs. Hume and Marshall, in the 'Game Birds of India, Burmah and Ceylon,' consider that in these countries two species, *Turnix plumbeipes* and *T. taigoor*, can be distinguished and are found in different geographical areas, the former inhabiting the higher and well-watered jungle-districts where the rainfall is heavy, while the latter is found only in dry regions where the rainfall is moderate.

The National Collection now contains Mr. Hume's large series of these little birds, without which it would be utterly impossible to arrive at any satisfactory conclusion when so much variety in plumage and size is found among individuals of the same species; and I hope from this material not only to be able to prove to my readers that these two species,

together with two others (*T. rostrata* and *T. blakistoni*), which I shall discuss, are merely climatic varieties of one and the same bird, but also to point out the reasons which lead to such a strange diversity of plumage.

Mr. Hume allows that the only difference which can be relied on for distinguishing *T. taigoor* from *T. plumbeipes* is that "the prevailing tint of the interscapulary region and back in the Indian Bustard Quail is *rufous*, in the Indo-Malayan bird *brown*;" and he goes on to say, "there are differences of markings, but no weight must be attached to these, as they are individual. Scarcely any two specimens of either species are precisely alike, but almost every variation in markings in one species will be found also in some specimens in the other. It is solely, so far as I can ascertain, by the prevailing tone of the colour of the upper surface that the two species can be separated." He adds, "This may seem an insufficient reason for making two species of the form; but it has to be noted that, if taking a large series from all parts of the empire you separate the two forms, you find that all the really red birds (the present species) are from one geographical area, and all the brown ones from another." Our series includes specimens from a number of localities not represented in Mr. Hume's collection, and these entirely upset his theory; for I find it impossible to draw any line between his two species. I have before me intermediate forms neither brown nor red, but a mixture of both, inhabiting localities where the rainfall is not excessive, and I am convinced that there is really only one species (*T. taigoor*) which ranges through India, Burmah, Malay, Siam and China to Formosa and the Loo Choo Islands, and that the key to the constant variety in the tone of the plumage is to be found in the effect of the amount of annual rainfall in the country which the birds inhabit. By going through the whole of our huge series and comparing the tone of the plumage with the amount of rainfall in the habitat of the bird, I find this theory exactly borne out; for where rain is abundant the prevailing colour of the upper parts is dark brown, where it is moderate the tone is more rufous, and

where it is small the birds are very bright rufous. I may refer my readers to the map of India, showing the mean annual distribution of the rainfall in English inches, published by Mr. Hume in 'Stray Feathers,' vol. vii. p. 501 (1878).

I. *TURNIX TAIGOOR* (Sykes) *.

(1832.) *Hemipodius taigoor*, Sykes, P. Z. S. 1832, p. 155 ; Beng. Sport. Mag., Oct. 1836, p. 171, pl. i. fig. 8 (♀ ad.).

(1837.) *Turnix plumbipes*, Hodgson, MS. (?), Bengal Sport. Mag., May 1837, p. 346.

(1839.) *Hemipodius atrogularis*, Eyton, P. Z. S. 1839, p. 107.

(1842.) *Turnix taigoor*, Blyth, J. As. Soc. Beng. 1842, p. 803 *.

(1861.) *Turnix rostrata*, Swinhoe, Ibis, 1861, p. 50.

(1871.) *Areoturnix blakistoni*, Swinhoe, P. Z. S. 1871, p. 401.

The furthest range of this species, so far as is at present known, is the Loo Choo Islands, whence a male specimen was procured by Mr. Namiye, and first recorded by Mr. Stejneger in his paper on the "Birds of Japan" (P. U. S. Nat. Mus. ix. p. 635) under the name of *T. blakistoni*—a name given by Mr. Swinhoe to a male specimen obtained at Canton, where the annual rainfall is 69 inches. Since then, Mr. Seeböhm has procured a second specimen, an adult female, from Loo Choo, and this, together with Mr. Swinhoe's male type from Canton, he has, with his usual generosity, lent me for inspection. The characters which Mr. Swinhoe ascribed to this species as distinguishing it from *T. pugnax* (as he called it, meaning "*plumbipes*" type) of Malacca were its smaller size, shorter toes, and small bill, and he adds that "instead of spots it has numerous bands across the breast"†, and its upper parts are

* I use the expression "*taigoor*" type in the sense in which it is understood by Hume in his 'Game Birds,' *i.e.* to express the rufous phase of this bird ; while "*plumbipes*" is used to express the brown phase.

† It is difficult to understand what Swinhoe can have meant by this expression, as he had previously remarked that his specimen belonged to

very rufous. I find the specimen in question to be a very normally coloured male of the "*taigoor*" type, and exactly like dozens of other male specimens from the dry and intermediate zones of India; while the adult female from Loo Choo likewise cannot be distinguished from adult females from the southern parts of the Indian Peninsula. At Takow, in the south of the island of Formosa, Mr. Swinhoe procured a number of examples of this species of the brown or "*plumbipes*" type, which he first called *T. ocellata*, probably meaning *T. fasciata*, but afterwards described as a new species under the name of *T. rostrata*, which he considered distinct from the Malaccan bird. This is, however, not the case; for I find in our Indo-Malayan series the exact counterparts of all his Formosan specimens. The name *rostrata* also means nothing; for the bill, which is subject to great variation in size according to age and sex, is no larger in the largest of his female specimens than that of *T. taigoor*.

No doubt this species is distributed throughout S. China in favourable localities and will be brought to bag and recorded sooner or later, though its skulking habits render it difficult to procure; but no example has been recorded, nor have we any representatives to indicate its range till we reach Siam. From this country we have in the Museum two specimens, a female and a male, of the ordinary "*plumbipes*" type of coloration, but both very old birds with the markings on the upper surface nearly obsolete. The male, collected by Mr. L. Layard at Nahconchaisee on June 2nd, 1872, was sitting on four eggs and has been sexed by the collector as "female, breeding-plumage;" but the plumage and other circumstances show that this is incorrect.

From Singapore to Kaukaryit on the Salween River, a district where rain is abundant, we have a very large and uniform series of the "*plumbipes*" type with only slight variation in the tone of colour of the upper surface; and the few

the *ocellata* (?) group (meaning either *T. fasciata* or *T. taigoor*), unless he was comparing it with *T. blanfordi*, which is the common species of China and with which, of course, it has nothing to do.

specimens inclining to rufous are young birds, and these mostly males. Two quite young males from Klang and a female of the same age from Tavoy have a large amount of rufous buff intermixed with the upper surface plumage, showing that this is a juvenile character and is probably retained longer in the plumage of the males than in the females.

No sooner do we leave Tenasserim and cross over the Nat-toung Mountains, between the Salween and Sittang Rivers, into Pegu, where the country is comparatively much drier, than the tone of the plumage of the upper surface changes, and we find even adult females with the rufous or "*taigoor*" phase more or less developed in a series of specimens from Pegu, Thayetmyo, and Tonghoo, while in four birds from Karennee, obtained by Captain Wardlaw Ramsay in a dry plain near Kyaiphogyee, where the rainfall is small, the upper surface is bright rufous, and one, a nearly adult female, is in every respect similar to the brightest specimens of the "*taigoor*" from Central and Southern India. Birds from Manipur, Tipperah, and Dibrughur are all "*plumbipes*," but in Shillong, where the rainfall is only 68 inches, they incline to rufous. In a large series of specimens from Sikhim, together with a male from Nawakote, the plumage of the upper parts is of the true "*plumbipes*" type, with the exception of a couple of *young* males from Sikhim, which have a decidedly rufous tone. All the specimens, both male and female, obtained by Hodgson in Nepal in the valley below Katmandoo, where the rainfall is probably more than 52 inches, are exactly halfway between typical "*plumbipes*" and "*taigoor*," while examples from Calcutta (66 inches), Burdwan, and Muddapur, &c. (55-60 inches) are nearly of the ordinary "*taigoor*" type. Those, again, from Cawnpur (29 inches) and Jhansic (35 inches), Jubbulpur, Khandeish, Cutch, and Raipur are somewhat brighter, and the brightest of all are from Ahmednugger, Dopuli on the frontier of S. Konkan, Belgaum, Mysore, Madras, and Coimbatore. Specimens from N.E. Ceylon, where the rainfall is small, are said to be the same

as those from Southern India, but I have never seen an example.

Summing up these facts we arrive at the following results :—

1. That birds from N.E. Ceylon (?), South and Central India, cannot be distinguished from specimens obtained in Karennee, at Canton, and in the Loo Choo Islands, and are of the true "*taigoor*" type.

2. That specimens from Nawakote, Sikhim, and the Malayan peninsula are similar to those from Siam and Formosa, and are of the true "*plumbipes*" type.

3. That specimens from Pegu, Thayetmyo, Tonghoo, Shil-long, the Nepal valley below Katmandoo and Calcutta represent every variety of intermediate stages between these two types.

4. That the amount of rainfall in these different places and countries, where the tone of the upper plumage in the birds is alike, is almost identical.

5. That it is impossible to recognize more than one species, *Turnix taigoor* (Sykes), in which the tone of the upper parts varies in different localities from *rufous* to *dark brown grey* in proportion as the rainfall is small or great in that part of the country where the examples occur. Sykes's type is preserved in our National Collection.

I have been unable to discover any record of the rainfall in the Loo Choo Islands or in S. Formosa, but at Kelung in the north of the latter island the rainfall is 122 inches (Schrenck, 'Reisen und Forsch. im Amur-Lande,' iv. p. 490). That of Loo Choo, judging from the specimens obtained at Napa, should be less than 70 inches. At Bangkok the rainfall is recorded by Dr. Campbell as being 67·04 inches (Q. J. Met. Soc. v. p. 62).

2. *TURNIX PUGNAX*, Temm.

Turnix pugnax, Temminck, Pig. et Gall. iii. pp. 612, 754.

Of the Ceylon birds, Blyth says there are two varieties—one abundant throughout the flat northern half of the island, which agrees with that of India generally; the other with a more deeply coloured cinnamon abdominal region, which is

as common in the south, and perhaps may be met with in the mountainous parts of S. India. No doubt there are two forms found in Ceylon, but they cannot be distinguished by the colour of the belly. The former from the intermediate zone is similar in all probability to the birds of the true "*taigoor*" type from South and Central India, &c., but of this form, as already remarked, I have seen no examples; while the latter, of which we have a fair series, inhabits the south-western portion of the island, where the rainfall is heavy, and is *precisely* identical with the Sumatran and Javan birds known as *T. pugnax*.

Though only an insular form of *T. taigoor*, I consider that *T. pugnax* should be retained under its present name, for in the adult female there is always a fairly marked rufous nuchal collar, which is distinctly differentiated from the colour of the back, showing a step towards the Philippine bird *T. fasciata* with its heavy rufous collar. There is no difference in size between *T. taigoor* and *T. pugnax* taken as a whole.

3. TURNIX FASCIATA, Temm.

(1815.) *Turnix fasciatus*, Temminck, Pig. et Gall. iii. pp. 634, 757.

(1877.) *Turnix nigrescens*, Tweeddale, P. Z. S. 1877, p. 765.

(1888.) *Turnix haynaldi*, Blasius, Ornith., iv. p. 317.

Of the rufous-collared birds of this group of *Turnix* which inhabit the Philippine Islands three species have been distinguished. The description of the original specimen given by Temminck (Pig. et Gall. iii. pp. 634, 757) is clearly based on an immature female or male, almost certainly the former, with which his description agrees exactly, for (p. 757) he says, "gula pectoreque albo et nigro transversim fasciatis," from which we may safely infer that the black throat of the adult was beginning to appear. Each of the throat-feathers becomes black at the tip and the base in this intermediate stage before the female becomes adult, while at the same time the dark brownish-black head and back begin to take the place of the more rufous young plumage, each feather of the top of the head becoming dark at the base and

remaining lighter round the margin only, while on the back the rufous gradually dies out and gives place to more sombre grey and black, and most of the white spots and markings disappear; the bill, too, becomes yellow instead of brownish green.

In this, the fully adult plumage, this species was named *T. nigrescens* by Lord Tweeddale, partly on account of the darker colour of the upper surface and partly on account of its larger size, which is clearly due to age alone. Mr. John Whitehead recently procured two pairs of this bird in Palawan, in the "*nigrescens*" or fully adult stage, which he has been kind enough to lend me for examination, and they agree in every particular with Lord Tweeddale's types from Cebu. Last year Dr. W. Blasius, in the above-quoted periodical, described a *Turnix* from Palawan under the name of *T. haynaldi*. There cannot be the slightest doubt that his description is based on an immature male of this species and has nothing whatever to do with *T. rufilatus*, Wallace, much less with *T. sylvatica*, which belong to different sections of the genus. The males of *T. rufilatus* and *T. fasciata* do, no doubt, resemble one another, though the former has never any rufous collar (see previous remarks on p. 447).

GROUP II.—Only two species are included in this group, viz., *T. rufilatus* from Celebes and *T. powelli* from the Island of Api, Sumbawa.

Both sexes in each species have the entire chest barred transversely with black and *white*; and while in the adult females the throat is similarly coloured to the chest, in the males it is white with just a few of the outer feathers edged with darker.

4. *TURNIX RUFILATUS*, Wallace.

(1861.) *Turnix fasciatus*, Gould (nec Temm.), Birds of Asia, vii. pl. 11.

(1865.) *Turnix rufilatus*, Wallace, P. Z. S. 1865, p. 480.

In none of the specimens before us is there any trace of a rufous nuchal collar, and the general tone of the upper surface is brown, becoming reddish brown towards the rump

in the younger female and male examples, while all the upper parts except the head are finely marked with wavy transverse bars of black. In the younger female and male birds, too, most of the scapulars and the middle feathers of the back are heavily blotched with black and irregularly margined with white; but in our most adult female specimens these markings have almost disappeared, leaving the upper surface nearly uniform brown, crossed transversely with fine wavy lines of darker. The types of this species were obtained at Macassar, Celebes, by Mr. A. R. Wallace, and are in our National Collection.

5. *TURNIX POWELLI*, Guillemard.

Turnix powelli, Guillemard, P. Z. S. 1885, p. 510, pl. xxix.

I have been unable to examine specimens of this species, so can only quote from the description of Dr. Guillemard.

He says, this species "is at once recognizable (from *T. rufilatus*) by the entire absence of rufous on the abdomen and thighs. Cervix darker, barring on breast more distinct and extending much lower; and the black stripe on the throat of the male bird is considerably more restricted."

Hab. Api Island, Sumbawa.

GROUP III.—The species included in this group are in most respects nearly allied to that which follows, but differ in several important particulars.

The sexes are practically the same, although the male is smaller and paler; the middle tail-feathers are elongated, pointed and edged with buff or white, and the feathers of the upper surface are edged with similar colours, giving the back a scaly appearance, which is often increased by the pattern of black and buff, &c., following the shape of the feather more or less instead of crossing it transversely.

The sides of the neck and breast in both sexes are ornamented with black spots or barred with black and white, and the throat, middle of the breast, and abdomen are immaculate. The scapulars are margined with whitish or golden buff.

The species *T. hottentotta* really belongs to this group, being most nearly allied to *T. nana*, but having the middle

of the breast and belly spotted with black is for convenience' sake placed by itself in the Key.

6. *TURNIX SYLVATICA* (Desf.).

(1787.) *Tetrao sylvaticus*, Desfontaines, Mém. Ac. R. Sc. Paris, 1787, p. 500, pl. xiii.

Turnix sylvatica, Dresser, B. of Europe, vii. p. 249, pl. 494.

Of this well-known species, which is found in S.W. Europe and N. Africa, little or nothing need be said beyond that, as far as plumage goes, it is absolutely identical with the next-mentioned species or race *T. lepurana*, which ranges, so far as is known, from Fantee to Bechuanaland and Massailand. The differences pointed out in my Key present all the distinctive characters which distinguish this species from the allied Hemipodes.

7. *TURNIX LEPURANA* (Smith).

(1836.) *Ortygis lepurana*, Smith, Rep. of Exp. App. p. 55.

(1849.) *Hemipodius lepurana*, Smith, Illust. Zool. S. Afr. pl. xvi. with text.

This so-called species, which was first described by Smith from Bechuanaland, is simply a smaller race of the South-European and North-African *T. sylvatica*, with which it is *absolutely identical* except in size. In the female of *T. sylvatica* the wing is about 3·7 inches and in that of the race *T. lepurana* it is only ca. 3·3 inches.

The range of this race appears to be from Bechuanaland to the Accra district of the Gold Coast, roughly speaking; but it is probably also found in all the grassy valleys further north, and has been recorded from Massailand by Dr. S. A. Fischer. The type of this species, obtained at Kurichane by Smith, is in our National Collection.

8. *TURNIX DUSSUMIERI*, Temm.

(1822.) *Turnix dussumieri*, Temminck, Pl. Col. d'Ois. vol. v. pl. 454. fig. 2.

(1837.) *Hemipodius variabilis*, Hodgson, MS. (?), Beng. Sport. Mag. 1837, p. 345.

(1849.) *Hemipodius sykesi*, Smith, Ill. Zool. S. Afr. ii. (see *H. lepurana*, pl. 16, footnote).

(1869.) *Turnix dussumieri*, Gould, Birds of Asia, vii. pl. 16.

This is the smallest species belonging to the genus, and reminds us strongly at first of *T. lepurana* from W. Africa, but may be distinguished from that species by a glance at the wide golden buff or straw-coloured margins of the scapulars.

In the quite young birds the whole upper surface is reddish brown, becoming more distinctly rufous on the nuchal region, with wavy transverse lines of black and scattered spots of whitish, especially on the wing-coverts; the breast is white, spotted and marked with black.

The fully adult female is larger (wing ca. 2·9) than the male (wing ca. 2·7) and has more rufous in the plumage of the upper surface, especially on the nuchal region. The fully adult males and the younger females are alike and have the upper surface buffy brown.

This species is found in suitable localities over a wide range, for we have specimens from Central and Northern India, Pegu, and Formosa.

9. TURNIX NANA (Sund.).

Hemipodius nanus, Sundevall, Öfv. Vet.-Akad. Förhandl. 1850, p. 110.

This, like the next species *T. hottentotta*, is easily distinguished from all others of this section of the genus by having the ends of the feathers along the sides of the neck and breast regularly *barred* with black and white instead of being *spotted* with black.

Our series, though a poor one of only eight specimens, represents fairly well the changes in the plumage.

In the quite young bird the whole of the under surface is white except a small amount of bright buff which is beginning to make its appearance on the breast, which is *entirely* barred with black and white. This, however, does not extend on to the abdomen, which is pure white, so that even at this early stage it can be easily distinguished from the young of *T. hottentotta*. As age advances, the changes in the female are as

follows :—cheeks, lores, superciliary stripe, neck, and breast become bright uniform rufous buff, and the barring on the latter is confined to the sides. In the male the changes are similar, but the buff does not become so bright and pure especially about the cheeks.

This species appears to have a wide range, being represented by specimens from Natal and Accra on the Gold Coast.

10. *TURNIX HOTTENTOTTA*, Temm.

(1815.) *Turnix hottentotta*, Temminck, *Pig. et Gall.* iii. pp. 636, 757.

The young of this species in most respects resembles *T. nana*, but the belly as well as the breast is barred and spotted with black. As age advances, the lores, superciliary stripes, cheeks, neck, and breast become bright rufous buff, the barring on the breast becomes confined to the sides, but most of the feathers of the middle of the breast and of the abdomen are ornamented with a rounded subterminal black spot.

I am unable to state how the adult male differs from the female, having no sexed specimen, but it is probably similar, but less bright.

This species appears to be confined to the extreme south of the African continent south of the Great Karroo.

Mr. Sharpe (*Layard*, B. S. A. p. 607), quoting Capt. Shelley, says that this bird (*T. hottentotta*) is fairly plentiful about Pine-town. This is of course a mistake, as the birds obtained by Capt. Shelley belong to *T. nana*. Moreover both Mr. Layard in his 'Birds of S. Africa,' and Mr. Sharpe in his second edition of that work, in describing *T. hottentotta*, make no mention of any black spots on the feathers of the breast and belly, which is almost the only distinctive character between this species and *T. nana*. On the other hand, Mr. Layard distinctly says that "this handsome little bird is found sparingly throughout the colony, evidently in the *most southern part of the continent*," and that the wing is 3·4 (it is 3·2 in *T. nana*). These facts make me think that his bird is

the true *hottentotta* and that, though he has omitted to mention the black spots on the breast and belly in his description, it ought not to be referred to the synonymy of *T. nana*.

GROUP IV.—We now come to the group of *Turnix* in which the sexes are different and the middle tail-feathers are not elongated and pointed and edged with buff, and the feathers of the upper surface do not present a scaly appearance. The sides of the neck and breast in both sexes are ornamented with round black spots, and the throat and middle of the breast and abdomen are immaculate. The scapulars may or may not be edged with golden buff. The adult female has a wide rufous nuchal collar (except in *T. saturata*), which is entirely absent in the fully mature male. The species here included are the Asiatic Button Quails, *T. tanki*, *T. blanfordi* (= *T. maculosa* of Hume), and *T. albiventris*, together with *T. saturata* from New Britain and *T. maculosa* from Australia, also the somewhat doubtful species *T. rufescens* of Wallace, from the island of Semaou, which will probably prove to be identical with Count Salvadori's *T. beccarii* from Celebes. Of these, the first three are distinguished by Messrs. Hume and Marshall (in the 'Game Birds of India, Burmah, and Ceylon'), though, partly from want of specimens when they wrote this excellent work, they had entirely failed to recognize the real distinctions between them, nor have they made any mention of the intricate changes of plumage between the young and adult*.

The fact is that the sexes, when fully adult, differ greatly in plumage from one another; but the difficulty experienced in these species is that *the younger birds of both sexes in all three* bear a very close resemblance to one another, and it is only in the *fully adult* that the distinctive characters of the species and sexes are clearly shown. All three species begin

* Mr Hume had apparently no *fully adult* female specimens of either *T. tanki* or *blanfordi* (= *T. maculosa*, Hume) till he bought Mandelli's collection, with the exception of a *fully adult female* of the former species, which was obtained in Hill Tipperah, where *T. blanfordi* also occurs. This bird was not sexed by the collector, but was figured by Mr. Hume in his 'Game Birds' as the fully adult male of his *T. maculosa*.

by having the upper surface greyish brown more or less blotched and vermiculated with black, while many of the feathers of the mantle and back have a patch of rufous at the tip, and are spotted or marked with dirty white, and it is not till they have passed through this first stage and become quite or almost quite adult that the striking specific differences assert themselves. These remarks also apply to the other species above mentioned with slight modifications.

11. *TURNIX TANKI*, Blyth. (Woodcut, fig. 1 *b*, p. 448.)

(1843.) *Turnix tanki* (Buchanan Hamilton), Blyth, J. As. Soc. Beng. 1843, p. 180*.

(1846.) *Turnix joudera* (Hodgson, MS.), Gray, Cat. Mamm. and Birds of Nepal, p. 129.

(1849.) *Turnix joudera*, Gray's Genera, iii. pl. 131 (♀ ad. good).

(1863.) *Turnix dussumieri*, Jerdon (nec Temminck), B. India, ii. p. 599.

In this and the two following species the scapulars are not edged with golden buff.

As maturity increases, the rufous in the upper surface of the female disappears, except from the nuchal portion, where a wide rufous collar is developed, and the back becomes uniform slaty brown, with *very faint indications of wavy transverse lines of darker colour*. The feathers of the head become barred with black and buff, and the round black spots on the sides of the breast usually become less numerous. In the male the rufous entirely disappears from the plumage of the whole upper surface, and the feathers become uniform slate-brown crossed by wavy lines of black, more distinct than in the female.

12. *TURNIX BLANFORDI*, Blyth.

Turnix maculosa, auct. (nec Temminck).

(1863.) *Turnix blanfordi*, Blyth, J. As. Soc. Beng. xxxii. p. 80.

(1871.) *Hemipodius viciarius*, Swinhoe, P. Z. S. 1871, p. 402 (♂ ad.).

(1873.) *Hemipodius chrysostomus*, Swinhoe, Ann. Mag. N. Hist. 4th series, xii. p. 375 (♀ ad.).

Hemipodius catharcus, Swinhoe, MS. (♀ imm.).

In the female the rufous in the feathers of the upper surface gradually disappears with age, except on the neck, where it concentrates and forms a wide rufous collar, and the general tone of the back becomes slaty brown *vermiculated and irregularly blotched with black*, while a few of the feathers still show faintly the whitish spots and markings of younger examples.

The name *maculosa*, which has been erroneously applied to this species by all the more recent authors, belongs in reality to the allied Australian form commonly known as *T. melanotus*, Gould. One cannot see how this mistake can have arisen, as Temminck distinctly says that his bird came from New Holland, although Vieillot, in his 'Galerie des Oiseaux,' ii. p. 51, pl. 217, states that the exact locality is somewhat doubtful. Anyone reading Temminck's original description carefully and glancing at Vieillot's plate (which is a very good one of a fully adult female) must see at once that neither refer to the Burmo-Malayan Button Quail, as Mr. Hume calls it. This latter bird must therefore be known in future by the next oldest name, *T. blanfordi*, Blyth.

13. TURNIX ALBIVENTRIS, Hume.

Turnix albiventris, Hume, Str. F. i. p. 305.

This species somewhat resembles *T. blanfordi* in having the upper parts blotched and vermiculated with black in the most adult female specimens, but the rufous in the feathers of the back is also retained, and the nuchal collar is much wider and of a deeper rufous than in the two preceding species.

The most adult male in our series is scarcely to be distinguished in plumage from old examples of *T. blanfordi*, the only apparent character being that a small amount of rufous is still intermixed in the upper surface; but this may possibly be due to its not being so old a bird, though fully adult. The difference in size is, of course, marked.

This species is found in the Nicobar and Andaman Islands.

14. *TURNIX MACULOSA* (Temm.).

(1815.) *Hemipodius maculosus*, Temminck, *Pig. et Gall.* iii. pp. 631, 757.

(1819.) *Turnix maculosus*, Stephens, *Shaw's Gen. Zool.* xi. p. 394.

(1823.) *Turnix maculatus*, Vieillot, *Encycl. Méth.* i. p. 330.

(1825.) *Turnix maculatus*, Vieillot, *Galerie des Ois.* ii. p. 51, pl. 217 (good).

(1837.) *Hemipodius melanotus*, Gould, *P. Z. S.* 1837, p. 8.

(1848.) *Hemipodius melanotus*, Gould, *B. Australia*, v. pl. 84, with text.

The younger birds of this species bear a close resemblance to those of the three last-mentioned Asiatic forms, but are of course at once distinguished by the scapulars being edged widely with buff or straw-colour. The changes in the plumage appear also to be much the same. In the female the rufous and black markings of the upper surface become rather more faint as age advances, and a wide light rufous nuchal collar is developed, while the superciliary stripe and ear-coverts become bright buff, as also the throat, but to a less degree.

The adult male, like the others in this group, has, of course, no rufous nuchal collar, but is otherwise similar in colour and markings to the female, though somewhat paler.

The reasons for discarding Mr. Gould's name *melanotus*, which has been commonly used to designate this species, have been fully explained in writing on *T. blanfordi* (see p. 467), to which the term *maculosa* has been erroneously referred by the majority of authors.

15. *TURNIX RUFESCENS*, Wallace.

(1863.) *Turnix rufescens*, Wallace, *P. Z. S.* 1863, p. 497.

? (1875.) *Turnix beccarii*, Salvadori, *Ann. Mus. Genov.* vii. p. 675.

(1882.) *Turnix rufescens*, Forbes, *Ibis*, 1882, p. 430.

The only representative of this so-called species is a type specimen which is at present before me, and was obtained by Wallace in the island of Semao. It is not sexed, but appears to be a nearly mature male, and closely allied both to *T. saturata* of New Britain and to *T. maculosa* of Australia,

being exactly similar to the former in the colour of the under surface, while it resembles the latter in the lighter colour of the back.

It is impossible, from this single *male* specimen, to say whether the species is distinct or not; but from the differences remarked on above, also from the locality where it was obtained, we believe that it may prove to be a distinct form; but this cannot be ascertained till adult females are obtained from the same locality.

16. *TURNIX SATURATA*, Forbes.

(1882.) *Turnix saturata*, Forbes, Ibis, 1882, p. 428.

The remarks on the plumage of the younger birds of the last species apply equally to the present, which is nearly allied, but easily distinguishable by its darker plumage and much stronger bill, and by the fact that in the *adult female there is no rufous nuchal collar*, what rufous there is in the upper plumage of the younger birds entirely disappearing in the adults of both sexes.

It may be of interest to note that one of our male specimens of this species collected by Herr Kleinschmidt in New Britian was shot together with a young chick, which is also in the National Collection. This would seem to indicate, what is probably the case, that the birds of this group are similar in their habits to the Bustard Quails of India and their allies (*T. taioor* group) and that it is the male bird which hatches and attends to the young.

17. *TURNIX OCELLATA* (Scop.). (Plate XIV.; woodcut, fig. 1a, p. 448.)

Caille de l'Isle de Luçon, Sonnerat, N. Guinée, p. 54, pl. 23.

(1786.) *Oriolus ocellatus*, Scopoli, Del. Flor. Faun. Insub. pt. ii. p. 88.

(1788.) *Tetrao luzoniensis*, Gmelin, Syst. Nat. 13th ed. pt. ii. p. 767.

(1815.) *Hemipodius thoracicus*, Temminck, Pig. et Gall. iii. pp. 622, 755.

(1823.) *Turnix rufus*, Vicillot, 2nd ed. Nouv. Dict. d'Hist. Nat. xxxv. p. 48.

(1834.) *Ortygis ocellata*, Meyer, Nov. Act. Acad. C. L.-C. Nat. Curios. xvi. Suppl. Primum, p. 101, pl. 17.

This fine species is one of the largest members of the genus *Turnix*, and forms a group by itself, characterized by the unique coloration of the plumage and by the very long upper tail-coverts, which entirely conceal the true tail.

T. ocellata appears to have been very much confused by various authors with *T. fasciata* and other species of the *taigoor* group. *T. fasciata* occurs in the same locality, but, as already shown, belongs to the *T. taigoor* group, to which the present species is not very nearly allied, although the chin and throat in the old adult female become almost black. (See Blyth, *Ibis*, 1865, p. 34; and Swinhoe, *Ibis*, 1863, p. 398; 1865, p. 543; 1866, p. 404, &c., &c.)

Our series contains only specimens that are adult or nearly so, and consequently does not allow of my offering very exact information as to the changes in plumage in this species; but from the remains of the young plumage still visible in the breasts of some of the less mature examples, the young of both sexes would appear to have the breast buff, with spots and marks of black near the ends of the feathers.

In older examples of both sexes the throat is white spotted with black (as in the adult male), and the breast rufous, sometimes spotted with black, in males at least; the upper surface is greenish brown mixed with pale rufous, and most of the feathers of the back and scapulars are narrowly edged with whitish and a rufous nuchal collar is more or less developed. The feathers of the crown are black edged with brown, and the interorbital and superciliary stripes are whitish.

As the female becomes quite adult, the black on the chin and throat gradually increases till these parts become nearly black, and the breast becomes a fine bright uniform rufous chestnut. On the upper surface the tone becomes more uniform and the rufous nuchal collar more marked, while the white margins to the feathers of the back and scapulars disappear and the black ocelli on the wing-coverts are reduced in number and size, being smaller and fewer than in the adult male. Wing 4·2 ca.

The fully adult male differs from the female in the following points:—It is smaller (wing ca. 3·9) and not so brightly coloured, the chin and throat are white spotted with black, as in the younger examples; many of the breast-feathers have subterminal dots of black, though these have disappeared in our oldest male example, and there is no rufous nuchal collar, while the white edges of the back and scapular feathers are retained even in the most adult, and the ocelli on the wing-coverts are larger and more numerous than in the female.

In the second section of the genus *Turnix*, which contains only six species, all are distinguished by having the tarsus equal to or less than the middle toe and claw (see fig. 2, p. 448).

18. *TURNIX NIGRICOLLIS* (Gm.). (Woodcut, fig. 2 *a*, p. 418.) (1760.) *La Caille de Madagascar* (*Coturnix madagascariensis*), Brisson, Orn. i. p. 252, pl. xxiv. fig. 2.

(1788.) *Tetrao nigricollis*, Gmelin, Syst. Nat. pt. ii. p. 767.

(1885.) *Turnix nigricollis*, Milne-Edwards and Grandidier, Madagascar, Ois. p. 494, pl. ccii.

MM. Milne-Edwards and Grandidier, in their 'Histoire de Madagascar, Oiseaux,' tell us that, as one would expect, this species forms no exception to the other members of the genus *Turnix*, for it is the female which is the larger and more brightly coloured bird; and they are of opinion that Hartlaub is wrong in describing the male as being the bird with the black throat and rufous shoulders. Our material is certainly not extensive, for we have only 11 specimens in the series, and, of these, three are little more than chicks. Out of the remaining eight, seven are fully adult black-throated specimens, of which four are *sexed males* and three are not sexed, while the eighth is sexed a male (young?), and is in precisely the same plumage as the one figured by Milne-Edwards and Grandidier in their work cited above.

These facts would certainly seem to prove that Hartlaub was correct with regard to the black-throated specimens being males; but I am inclined to believe that the bird

he describes as the adult female, together with the specimen figured by MM. Milne-Edwards and Grandidier as the adult male, are both only immature examples, and that the plumage in both sexes is in reality similar or almost exactly so.

Since writing the above, I have, through the kindness of Professor Newton and Mr. Büttikofer, been able to examine six additional specimens which are said to have been sexed by reliable collectors. The three lent me by Mr. Büttikofer, which were collected by J. Audebert, and are said to be an adult male and female and a young male, agree exactly with the ideas of MM. Milne-Edwards and Grandidier, in their 'Histoire de Madagascar, Oiseaux'; while the other three sent by Professor Newton (an adult male and female and an immature bird collected by Sir Edward Newton and Mr. Caldwell) show that the sexes are identical. The *male* was obtained and sexed by Sir Edward Newton. I therefore consider myself justified, from these facts, in believing that the sexes in this species *are* exactly similar, and that we find in Madagascar this ancestral species in which the plumage of the sexes has remained alike.

19. *TURNIX MELANOGASTER* (Gould). (Woodcut, p. 448, fig. 2 b.)

(1837.) *Hemipodius melanogaster*, Gould, P.Z. S. 1837, p. 7.

(1848.) *Hemipodius melanogaster*, Gould, Birds of Austr. v. pl. 81.

Of this species Mr. Gould says: "I regret that, never having seen this species in a state of nature, I am unable to render any account of its habits and economy. . . . Judging from analogy, I presume that the sexes present little or no difference in their markings . . . in all probability the female will be found to exceed the male" (in size).

Judging from analogy and the specimens before me, I should arrive at an exactly opposite conclusion; but unfortunately not one of our series is sexed, and I can therefore only guess that the larger birds (wing 4.4) with black foreheads, chins and throats, and black breasts with terminal

white bars are the females, while the smaller ones (wing 4-4.1) with brown or greyish foreheads, white chins, and whitish breasts with subterminal transverse V-shaped black marks on each feather are the males.

But of course this is quite uncertain and cannot be decided till we are able to obtain properly sexed specimens, though I have no doubt that my theory is correct.

Mr. Ramsay, in his tabular list of Australian birds, gives the range of this species as being from Wide Bay to New South Wales.

20. *TURNIX VARIUS* (Lath.).

(1802.) *Perdix varius*, Latham, Ind. Orn. Suppl. ii. p. 283.

(1845.) *Hemipodius scintillans*, Gould, P. Z. S. pt. xiii. p. 62.

(1848.) *Hemipodius varius*, Gould, Birds of Austr. v. pl. 82, with text.

(1848.) *Hemipodius scintillans*, Gould, Birds of Austr. v. pl. 83.

Although we possess a very fair series of this species, unfortunately only a few of the specimens are either sexed or dated; yet on examination certain facts are clear enough and easily deducted. In the first place the species *H. scintillans*, described and figured by Mr. Gould from East and West Wallaby Islands of the Houtman's Abrolhos group on the west coast of Australia, is nothing more nor less than the male of *T. varius*, and what he figures and describes as *H. varius* is the female of that species.

Mr. E. P. Ramsay follows Mr. Gould and, as regards the geographical distribution of these two so-called species in his 'Tabular List of all the Australian Birds' p. 18, states that *T. scintillans* inhabits South, West, and North Australia, while *T. varius* is found from Rockingham Bay to Tasmania.

The fact is that this species is found all round Australia and in Tasmania in suitable localities, such as dry stony hills and barren sandy islands, and in spite of its wide distribution shows little or no variation in its plumage in examples of the

same sex and age, specimens from Perth and Cape York being entirely similar to those from S. Australia. Just as in the "*tanki*" group, the most adult female specimens have a distinct inclination to a rufous nuchal collar, which is somewhat developed in the *young of both sexes*, but *entirely disappears* in the *adult male*.

A male specimen of *Turnix* from New Caledonia is in the Tweeddale Collection and is closely allied to the present species, but differs in having most of the *feathers of the rump, as well as those of the upper surface, almost entirely black*, margined with whitish or buff. It is also a smaller bird than the male of *T. varius*, its wing being 3·3 instead of 3·5–3·6. I have little doubt that this belongs to a distinct species; but this cannot be ascertained until adult females have been procured.

21. TURNIX CASTANONOTA (Gould).

(1839.) *Hemipodius castanotus*, Gould, P. Z. S. 1839, p. 145.

(1848.) *Hemipodius castanotus*, Gould, Birds of Austr. v. pl. 85.

Only two specimens of this species are in the National Collection, both of which were obtained at Port Essington. One of these is a female sexed by Mr. J. B. Jukes, the collector, and no doubt the other, obtained by Capt. Chambers, is a fully adult bird of the same sex.

Having so little material to draw our conclusions from, I am of course unable to make any remarks on the plumage, but, in all probability, the male, as represented in Mr. Gould's plate, resembles the female, but is smaller and less brightly coloured, as is the case in the allied species *T. velox* and *T. pyrrhothorax*, which have also very stout bills.

Mr. Ramsay states that this bird is found at Port Darwin, Port Essington, and Cape York.

22. TURNIX PYRRHOTHORAX (Gould).

(1840.) *Hemipodius pyrrhothorax*, Gould, P. Z. S. 1840, p. 150.

(1848.) *Hemipodius pyrrhothorax*, Gould, Birds of Austr. v. pl. 86.

We have a good series of this species, which is well figured and described by Mr. Gould in the work quoted above.

The sexes are entirely alike, but the male is smaller and has the rufous chest less bright than the female.

Mr. Ramsay gives the geographical distribution of this species as extending from Cape York, Wide Bay and Richmond, and Clarence River District, to Victoria and S. Australia.

23. TURNIX VELOX (Gould).

(1840.) *Hemipodius velox*, Gould, P. Z. S. 1840, p. 150.

(1848.) *Hemipodius velox*, Gould, Birds of Austr. v. pl. 87.

We have again a good series of this little bird, which is also well figured and described by Mr. Gould in the above-cited work.

Like the two last-mentioned species, *T. castanonota* and *T. pyrrhothorax*, the above has a very stout bill.

The sexes are entirely alike in plumage, but the male is smaller (wing 2·8 as against 3·1 in the female), and appears, even when fully adult, to retain the light stripe down the middle of the head, and light margins to all the feathers of the neck and upper part of the back, both of which become uniform in the fully adult female.

Mr. Ramsay says this bird is found from Rockingham Bay southwards, also in Victoria, S. Australia, and Tasmania, as well as in the Swan River District.

XLIII.—On some new Genera and Species of the Family Capitonidæ. By Captain G. E. SHELLEY, F.Z.S.

DURING my studies at the British Museum I have come across several species of Capitonidæ which appear to me to be undescribed. I have also found it necessary to provide names for some genera of African Barbets which I think should be separated from their relatives.

1. ERYTHROBUCCO, gen. n.

Distinguished from *Pogonorhynchus* (type *P. dubius*) by



Peter Smit del. et lith.

TURNIX OCELLATA.

Mintern Bros. imp